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A new species of "Whale Catfish" (Siluriformes: Cetopsidae) from the western portions of the Amazon basin

José Carlos de Oliveira, Richard P. Vari,* and Carl J. Ferraris, Jr.

(JCO) Universidade Federal de Juiz de Fora, Caixa Postal 656, Juiz de Fora, MG 36016-330, Brazil;
(RPV) Department of Systematic Biology—Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560-0159, U.S.A.;
(CJF) Research Associate, Department of Systematic Biology—Fishes, National Museum of Natural History, Smithsonian Institution, Washington, D.C. 20560-0159, U.S.A.

Abstract.—*Cetopsis parma,* a new species of the subfamily Cetopsinae of the catfish family Cetopsidae is described from locations in the Peruvian and Ecuadorian Amazon. The species differs from the other species in the subfamily by the combination of the presence of a single row of conical teeth on the dentary, the presence of a distinct blotch of dark pigmentation on the lateral surface of the body dorsal to the pectoral fin, and the possession of 44 or 45 vertebrae, 14 or 15 ribs, and 8 or 9 gill rakers.

Resumo.—*Cetopsis parma,* uma nova espécie da subfamília Cetopsinae da família de bagres Cetopsidae, é descrita com base em coletas realizadas na Amazônia Peruana e Equatoriana. Esta espécie difere das outras espécies na subfamília pela combinação da presença de uma única série de dentes cônicos no dentário, da presença de uma distinta mancha de pigmentação na superfície lateral do corpo dorsalmente à nadadeira peitoral, e da presença de 44 ou 45 vértebras, 14 ou 15 costelas, e 8 ou 9 rastros branquiais.

The members of the Neotropical siluriform subfamily Cetopsinae are commonly called "Whale Catfishes" in English given the perceived similarity in overall form of cetaceans and some of the first described species of the subfamily. The reduced, or in one species absent, eyes typical of cetopsins are, in turn, the basis for their common name of "Ciego" (=Blind) or "Bagre Ciego" (=Blind Catfish) in various portions of their range. Cetopsins have long been a puzzle within catfish systematics. Recently de Pinna & Vari (1995), however, documented a number of unusual derived modifications which demonstrated that the Cetopsinae (the Cetopsidae of earlier authors) was monophyletic. The evidence indicated furthermore that the Cetopsinae was the sister group of what had previously been recognized as a separate family, the Helogenidae. de Pinna & Vari consequently united the Cetopsidae and Helogenidae of previous classifications in an expanded Cetopsidae. In commenting on this broader Cetopsidae, de Pinna (1998:292) subsequently noted that "there is some evidence that they occupy a markedly basal position within the siluriform cladogram," thus making an understanding of the species diversity and intrarelationships within the family of particular import.

The recognized species diversity in the Cetopsinae has steadily increased within the last decade, with the 12 species of cetopsins considered valid by Burgess (1989) supplemented by four additional species subsequently described by Ferraris & Brown (1991), Lundberg & Rapp Py-Daniel

* Correspondant: vari.richard@nmnh.si.edu.

(1994), and Ferraris (1996). Ongoing studies indicate that these 16 species are a substantial underestimate of the actual diversity in the subfamily. The species described in this paper is based on two specimens, one discovered by the first author during his examination of the Cetopsinae (Oliveira, 1988) and the second found by the second and third authors in the course of their revisionary study of that subfamily. The new species is described herein to make the name available for an ongoing phylogenetic analysis of the Cetopsidae and a revisionary study of the subfamily Cetopsinae.

Materials and Methods

The concepts of the Cetopsidae and Cetopsinae used in this paper are those proposed by de Pinna & Vari (1995). Standard length (SL) was measured with dial calipers to 1.0 mm. All measurements were taken as straight line distances between points. Head length (HL) was measured from the snout tip to the end of the fleshy gill cover. Interorbital width was taken as the shortest distance between the orbits, but is difficult to measure unambiguously. Vertebrae and unpaired fin rays were counted from radiographs. Vertebral counts included the four elements of the Weberian complex and one element for the ural complex and were separated into preanal, precaudal, and caudal elements. Total vertebrae is the sum of the precaudal and caudal vertebrae. In fin-ray counts, unbranched rays are indicated by lower case roman numerals and branched rays by Arabic numbers. The range of values for meristic and morphometric features in the species is presented first, followed by the values for the holotype in brackets. Institutional abbreviations are: Museu de Historia Natural de la Universidad Nacional Mayor de San Marcos, Lima, Peru (MUSM) and Museo, Escuela Politécnica Nacional, Quito, Ecuador (MEPN).

Cetopsis parma, new species
Fig. 1

Holotype.—MUSM 2266, 73 mm SL. Peru. Departamento de Ucayali, Provincia Coronel Portillo, Río Tambo, Río Ucayali basin, Pucallpa, Atalaya (8°23′S, 74°32′W), collected by Hernán Ortega, 15 May 1986.

Paratype.—MEPN 1034, 170 mm SL. Ecuador. Provincia de Pastaza, Río Marañon basin, Río Pastaza system, near Río Chicherota, in vicinity of Montalvo (2°04′S, 76°58′W), collected by Roman Olalla and Gonzalo Herrera, February 1958.

Diagnosis.—The presence of a single row of teeth on the dentary in *Cetopsis parma* differentiates this species from all other cetopsins other than for *Cetopsis coecutiens* and *Hemicetopsis candiru.* The possession of conical rather than incisiform teeth distinguishes *Cetopsis parma* from *Hemicetopsis candiru* and the two species also differ in the overall form of the head and body. *Cetopsis parma* has a relatively stout body with the depth at the dorsal-fin origin approximately 3.7 times in SL and the pelvic-fin insertion at, or slightly posterior of, the vertical through the posterior of the dorsal-fin base whereas *Hemicetopsis candiru* has an elongate body with the body depth at the dorsal-fin origin approximately 5 to 5.5 times in SL and the pelvic-fin insertion distinctly posterior of the vertical through the posterior of the dorsal-fin base. *Cetopsis parma* differs from *C. coecutiens* in its possession of the diffuse dark patch on the lateral surface of the body dorsal to the pectoral fin (Fig. 1) which is lacking in the latter species. *Cetopsis parma* can be further differentiated from *C. coecutiens* in the total number of vertebrae (44 or 45 versus 47 to 50, respectively), number of gill rakers (8 or 9 versus 38 to 52, respectively), and number of ribs (14 or 15 versus 15 to 18, typically 16 or 17, respectively).

Description.—Body stout, slightly laterally compressed anteriorly, increasingly more so posteriorly. Body depth at dorsal-fin origin approximately 3.7–4.2 [3.7] times in SL, and slightly less than HL. Lateral line on body complete, unbranched, mid-lateral, and extending from vertical through pectoral-fin base to hypural plate. Dorsal profile of body straight and obliquely slant-

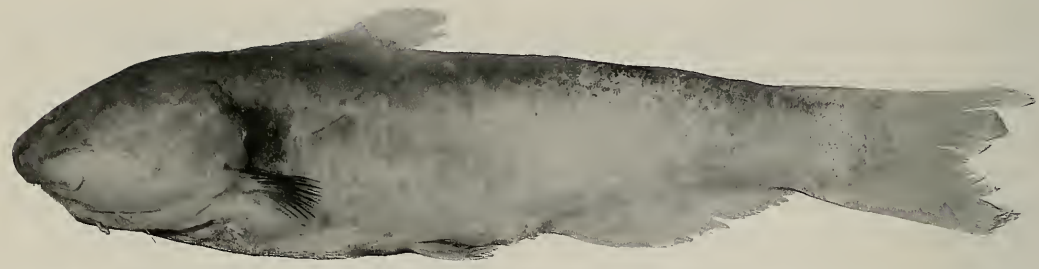

Fig. 1. Holotype of *Cetopsis parma*, new species; MUSM 2266, 73 mm SL; Peru, Departamento de Ucayali, Río Tambo, Pucallpa, Atalaya (8°23′S, 74°32′W).

ed from nape to dorsal-fin origin, straight from dorsal-fin origin to caudal-fin base. Ventral profile of body convex along abdomen, approximately straight, but posterodorsally slanted, along anal-fin base. Caudal-peduncle depth slightly greater than caudal-peduncle length in holotype, slightly greater than caudal-peduncle length in much larger paratype. Caudal peduncle distinctly compressed transversely.

Head in lateral view triangular with bluntly rounded snout. Dorsal profile of head gently convex from tip of snout to vertical through anterior margin of eye, more rounded from that line to nape. Ventral profile of head convex. Profile of snout in dorsal view broadly rounded. Profiles of postorbital portion of each side of head running in parallel. Dorsal surface of postorbital part of head with enlarged jaw musculature obvious. Laterosensory canals and pores on head not obvious.

Branchial membranes attached to isthmus posteriorly as far as vertical through pectoral-fin origin. Opercular opening moderate, extending ventral of horizontal through pectoral-fin origin for distance equal to snout length and dorsal of pectoral-fin origin for distance slightly less than snout length.

Eye situated on lateral surface of head; located one orbital diameter dorsal of horizontal through pectoral-fin origin; eye visible in lateral and dorsal views. Middle of orbit located slightly anterior to anterior one-quarter of HL. Eye diameter approximately one-third length of snout in holotype, apparently proportionally smaller but impossible to measure accurately in much larger paratype as consequence of thicker skin overlying eye. Interorbital width distinctly larger than distance from tip of snout to rear of orbit and approximately 2.0–2.5 [2.5] in HL. Anterior narial opening circular, surrounded by short, anteriorly-directed, tubular rim of skin and located along horizontal through both tip of snout and maxillary-barbel origin. Distance between anterior nares approximately equal to length of snout plus orbit. Posterior narial opening nearly round and without obvious long axis; located on dorsal surface of snout at vertical through anterior margin of orbit. Anterior two-thirds of narial opening bordered by flap of skin only slightly higher anteriorly. Distance between posterior nares slightly less than distance between anterior nares.

Mouth inferior, wide, its width approximately one-half of HL. Margin of lower jaw nearly transverse, its posterior limit reaching vertical through posterior margin of orbit. Premaxillary tooth patch elongate and crescentic, continuous across midline; anterior margin convex, posterior margin transversely aligned and nearly straight. Premaxillary teeth relatively small, conical, and sharply pointed, with teeth arranged in four or five irregular rows (five rows in larger paratype). Palatal teeth arranged in one gently curved row continuous across midline. Palatal teeth large and bluntly conical. Dentary with one row of teeth similar in size and shape to those on palate.

Maxillary barbel slender, its length ap-

proximately equal to length of snout; barbel origin located along vertical through anterior margin of orbit. Mental barbels about equal in size and length to maxillary barbel and to each other. Origin of medial-mental barbel located at vertical through posterior margin of orbit. Origin of lateral-mental barbel located slightly posterior to vertical through posterior margin of orbit. Tip of adpressed mental barbels not reaching margin of branchial membranes.

Dorsal-fin rays i,6 [i,6]. Dorsal fin relatively small, with length of base approximately one-third of HL. Distal margin of dorsal fin straight, with first ray longest and equal in length to one-half of HL. Dorsal-fin spinelet absent, first dorsal-fin ray not spinous and with short filamentous extension. Dorsal-fin origin located slightly posterior of one-third of SL and at vertical extending through distal one-quarter of adpressed pectoral fin. Tip of adpressed dorsal fin reaching to vertical through pelvic-fin base. Last dorsal-fin ray without posterior membranous attachment to body.

Principal caudal-fin rays 8+9 [8+9]. Caudal fin moderately forked and symmetrical; tips of lobes bluntly pointed. Length of longest caudal-fin rays about one and one-half times length of middle rays.

Anal-fin rays v–vi,18–25 [v,25]. Anal-fin base relatively short, approximately 3.7–4.2 [3.7] times in SL. Anal-fin origin located well posterior to middle of SL and slightly posterior to middle of TL. Anal-fin margin straight. First branched anal-fin ray longest, with subsequent rays becoming gradually shorter. Last anal-fin ray without posterior membranous attachment to body.

Pelvic-fin rays i,5 [i,5]. Pelvic fin short, with distal margin slightly convex and first branched ray longest. Pelvic-fin origin located anterior to middle of SL and just posterior to vertical through posterior terminus of dorsal-fin base. Tip of adpressed pelvic fin extending beyond middle of SL, but not reaching vent. Last pelvic-fin ray with membranous attachment to body along its basal one-half.

Pectoral-fin rays i,8–9 [i,8]. Pectoral fin very short, its length about one-half of HL. Pectoral-fin margin slightly sigmoid with first and middle rays longest. First pectoral-fin ray not spinous and with very short filamentous extension in both specimens.

Preanal vertebrae 19–20 [19]. Precaudal vertebrae 15–16 [15]. Caudal vertebrae 29 [29]. Total vertebrae 44–45 [44]. Ribs 14–15 [14]. Gill rakers 8–9 [9].

Coloration.—Head and body slightly darker dorsally. Sides of body dark as far ventrally as level of horizontal through pectoral-fin base. Irregular, vertically-elongate dark blotch on lateral surface of body dorsal to pectoral fin. Height of blotch approximately equal to length of pectoral fin, proportionally slightly higher in paratype. Ventral surface of head and abdomen pale. Sides of head dark as far ventrally as horizontal through base of maxillary barbel. Snout margin dark. Dorsal fin pale in holotype, irregularly covered with dark pigmentation in paratype. Caudal fin pale in holotype, covered with scattered eye-sized dark spots in much larger paratype. Anal fin dusky basally and pale distally in both specimens. Pectoral fin with interradial membranes darkly pigmented on dorsal surface except along fin margin. Pelvic fin with scattered dark pigmentation on dorsal surface of interradial membranes, except along fin margin.

Sexual dimorphism.—Both the holotype and paratype are presumed to be females, given their possession of the straight anal-fin margin which is typical of females in the sexually dimorphic species in the Cetopsinae (RPV & CJF pers. obs).

Distribution.—*Cetopsis parma* is only known from two localities in the western portions of the Amazon basin in the Río Pastaza of the Río Marañon basin in Ecuador and the Río Tambo in the Río Ucayali basin of Peru.

Etymology.—The species name, *parma,* is from the Latin word, parma, a type of small shield, is in reference to the dark mark on the lateral surface of the body im-

mediately dorsal to the pectoral fin. It is used as a noun in apposition.

Remarks.—Various authors (Ferraris & Brown 1991, Lundberg & Rapp Py-Daniel 1994, and Ferraris 1996) have grappled with the problem of generic definitions within the subfamily Cetopsinae (the family Cetopsidae of authors prior to de Pinna & Vari 1995). Lundberg & Rapp Py-Daniel (1994:381) well summarized the situation with their comment that the "systematic understanding of the South American Cetopsidae is poorly developed". The resolution of these problems lies far beyond the limits of this study and will be addressed in a future publication dealing with the phylogenetic relationships among cetopsins. For the purposes of this paper, we consequently place the new species into *Cetopsis* using the concept of that genus proposed by Schultz (1944) which is based on the combination of the possession of a restricted gill opening and conical teeth arranged in multiple rows on the premaxillae. We recognize, however, that the limits of the genus may be modified by a more rigorous phylogenetic analysis.

The holotype and paratype of *Cetopsis parma* demonstrate various morphometric differences which likely reflect the pronounced differences in the size of the specimens (73 versus 170 mm SL, respectively). The holotype and paratype show noteworthy variation in only one meristic feature, the number of branched anal-fin rays (18 versus 25, respectively) and the associated morphometric value, the proportional length of the base of the anal fin. Until such time as additional material which shares the distinctive pigmentation and dentition characters present in these specimens becomes available, we conservatively consider this difference to represent intraspecific variation, perhaps reflective of populational differences associated with the river distances separating the two localities.

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